



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/710,271	06/30/2004	Hung-Hsiang Lin	NAUP0606USA	4270
27765 7590 11/02/2007 NORTH AMERICA INTELLECTUAL PROPERTY CORPORATION P.O. BOX 506 MERRIFIELD, VA 22116			EXAMINER MACARTHUR, SYLVIA	
			ART UNIT 1792	PAPER NUMBER
			NOTIFICATION DATE 11/02/2007	DELIVERY MODE ELECTRONIC

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

winstonhsu.uspto@gmail.com
Patent.admin.uspto.Rcv@naipo.com
mis.ap.uspto@naipo.com.tw

Office Action Summary

Application No.

10/710,271

Applicant(s)

LIN ET AL.

Examiner

Sylvia R. MacArthur

Art Unit

1792

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 24 August 2007.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-20 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-20 is/are rejected:
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 20 June 2004 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date <u>7/29/2007</u> . | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Claim Rejections - 35 USC § 112

1. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

2. Claims 12-20 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

3. Claims 12-20 are rejected under 35 U.S.C. 112, second paragraph, as being incomplete for omitting essential structural cooperative relationships of elements, such omission amounting to a gap between the necessary structural connections. See MPEP § 2172.01. The omitted structural cooperative relationships are: The relationship between the processing vessel, wafer transferring means, and chemical vessel is undefined in the claims.

4. Additionally, it is noted that a wafer transferring means is required. However, this limitation does not invoke 112/6th paragraph (means-plus function) as the specification does not define said means. For the purposes of examination the examiner interprets the transferring means as a wafer transfer robot, operator, or any conventionally known way to transfer the wafer in/out of the processing vessel such as the robots taught by Harada et al.

Double Patenting

5. Claims 1-20 of this application conflict with claims 1-20 of Application No. 10/907,917 37 CFR 1.78(b) provides that when two or more applications filed by the same applicant contain conflicting claims, elimination of such claims from all but one application may be required in the absence of good and sufficient reason for their retention during pendency in more than one

Art Unit: 1792

application. Applicant is required to either cancel the conflicting claims from all but one application or maintain a clear line of demarcation between the applications. See MPEP § 822.

6. A rejection based on double patenting of the "same invention" type finds its support in the language of 35 U.S.C. 101 which states that "whoever invents or discovers any new and useful process ... may obtain a patent therefor ..." (Emphasis added). Thus, the term "same invention," in this context, means an invention drawn to identical subject matter. See *Miller v. Eagle Mfg. Co.*, 151 U.S. 186 (1894); *In re Ockert*, 245 F.2d 467, 114 USPQ 330 (CCPA 1957); and *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970).

A statutory type (35 U.S.C. 101) double patenting rejection can be overcome by canceling or amending the conflicting claims so they are no longer coextensive in scope. The filing of a terminal disclaimer cannot overcome a double patenting rejection based upon 35 U.S.C. 101.

7. Claims 1-20 are provisionally rejected under 35 U.S.C. 101 as claiming the same invention as that of claims 1-20 of copending Application No. 10/907,917. This is a provisional double patenting rejection since the conflicting claims have not in fact been patented.

There is a one-to-correspondence of claim limitations in that claim 1 of the present application is identical to its scope and limitations to the co-pending application.

Claim Rejections - 35 USC § 102

8. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

9. Claim 1 is rejected under 35 U.S.C. 102(b) as being anticipated by Hidehiro (JP 08-015207).

The prior art of Hidehiro teaches an in-situ corrosion monitoring system, comprising:

Art Unit: 1792

A chemical vessel comprising a conductive shell (metallic can body 1) and an insulating interior lining (plastic lining layer 2), wherein the interior lining has the potential of being attacked by a chemical liquid. A robust detection electrode 4 is immersed in the chemical liquid and a measurement means (current detector 6).

10. Claim 1 is rejected under 35 U.S.C. 102(b) as being anticipated by Takehisa et al (JP 02-293657).

The prior art of Takehisa teaches an in-situ corrosion monitoring system, comprising:
A chemical vessel comprising a conductive shell (vessel body 1) and an insulating interior lining (corrosion resistant lining), wherein the interior lining has the potential of being attacked by a chemical liquid. A robust detection electrode 3 is immersed in the chemical liquid and a measurement means (current detecting circuit 7).

11. Claims 1,2, 4, 7, 9-11 are rejected under 35 U.S.C. 102(b) as being anticipated by Hall (US 5,529,668).

The prior art of Hall teaches an in-situ corrosion monitoring system, comprising:

Regarding claims 1, 2, and 4: A chemical vessel (pipes) comprising a conductive shell (steel layers 14) and an insulating interior lining (resin, see col.3 lines 45-61), wherein the interior lining has the potential of being attacked by a chemical liquid. A robust detection electrode 12 (lead) is immersed in the chemical liquid and a measurement means (voltmeter 20)

Regarding claim 7: The lead is constructed of steel a corrosion resistant material, see col. 4 lines 1-10.

Art Unit: 1792

Regarding claims 9-11: See col. 5 lines 18-27.

Claim Rejections - 35 USC § 103

12. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

13. Claims 3, 5, and 8 are rejected under 35 U.S.C. 103(a) as being unpatentable over Hidehiro, Takeshisa, or Hall in view of Gao et al (US 2005/012816).

The teachings of the prior art of Hidehiro, Takeshisa, or Halwas are discussed above.

All fail to teach :

Regarding claim 3: The conductive shell is constructed of Al.

Regarding claim 5: The fluoropolymer resin to construct the insulative layer is PTFE.

Regarding claim 8: The robust electrode is constructed of Pt.

Gao et al teaches a cell unit (chemical vessel) with conductive and electrically insulative layers, see abstract. In sections [0022] – [0025], Gao et al teaches various conductive coating and lists Pt as a conductive with corrosion resistant properties which would motivate one to construct the electrode of this conventionally known and widely available metal. Aluminum is also listed as a material of construction as it is also a conventionally known and widely available metal that can be used to construct the conductive shell due to its advantageous chemical and physical properties. Gao et al further recites PTFE

Art Unit: 1792

which is the generic name for Teflon®, as it recited as a water/corrosion resistant coating will insulative properties. Thus, the prior art of Gao et al provides guidance of the materials that are widely known available as construction materials for the conductive shell, insulative coating and electrode of the apparatus of Hidehiro, Takeshisa, or Hall.

14. Claims 5 and 6 are rejected under 35 U.S.C. 103(a) as being unpatentable over Hidehiro, Takeshisa, or Hall in view of Toshima et al (US 2005/0011537)

The teachings of the prior art of Hidehiro, Takeshisa, or Hall was are discussed above.

All fail to teach :

Regarding claim 5: The fluoropolymer resin to construct the insulative layer is PTFE.

Regarding claim 6: The fluoropolymer resin to construct the insulative layer is PFA.

Toshima et al teaches a substrate processing appartus wherein PTFE and PFA are taught to be optimal choices for materials of construction in chemically and physically harsh environments like semiconductor manufacturing. The motivation to use these materials as the insulative layer of Hidehiro, Takeshisa, or Hall is that they are corrosion resistant.

Thus, it would have been obvious for one of ordinary skill in the art at the time of the claimed invention to construct the insulative layer of PTFE or PFA as taught by Toshima et al.

15. Claims 12- 15 are rejected under 35 U.S.C. 103(a) as being unpatentable over Harada et al in view of Hidehiro or Takeshisa.

Harada et al teaches a multichamber semiconductor manufacturing apparatus wherein a CPU, host computer, and alarm combined are considered a controller unit, robots 10/10a (wafer transferring means) are provided and a plurality of processing vessels 234-239 are taught.

Art Unit: 1792

Harada fails to teach a chemical vessel as cited in claim 12. The teachings of the prior art of Hidehiro, Takeshisa, or Hall were discussed above. As the control unit comprises a CPU and computer it can be programmed to perform the steps recited in claims 12-15., see also columns 10-16 which teach the use of the CPU and the steps such as turning on.off as recited in the claimed invention. The motivation to modify the apparatus of Harada et al with the device of Hidehiro or Takehisa is that either of these device allow for the corrosion detection and process control of the processing chambers. Thus, it would have been obvious for one of ordinary skill in the art at the time of the claimed invention modify the apparatus of Harada et al with the device of Hidehiro or Takehisa.

16. Claims 12- 18 are rejected under 35 U.S.C. 103(a) as being unpatentable over Harada et al in view of Hall.

Harada et al teaches a multichamber semiconductor manufacturing apparatus wherein a CPU, host computer, and alarm combined are considered a controller unit, robots 10/10a (wafer transferring means) are provided and a plurality of processing vessels 234-239 are taught.

Harada fails to teach a chemical vessel as cited in claim 12. The teachings of the prior art Hall were discussed above. As the control unit comprises a CPU and computer it can be programmed to perform the steps recited in claims 12-15., see also columns 10-16 which teach the use of the CPU and the steps such as turning on.off as recited in the claimed invention. The motivation to modify the apparatus of Harada et al with the device of Hall is that the device allows for the corrosion detection and process control of the processing chambers. Thus, it would have been obvious for one of ordinary skill in the art at the time of the claimed invention modify the apparatus of Harada et al with the device of Hall.

Art Unit: 1792

17. Claims 19 and 20 are rejected under 35 U.S.C. 103(a) as being unpatentable over Harada et al in view of Hall, as applied to claims 12-18 above, and in further view of Toshima et al.

The teachings of the prior art of Harada in view of Hall was are discussed above.

The resulting apparatus fails to:

Regarding claim 19: The fluoropolymer resin to construct the insulative layer is PTFE.

Regarding claim 20: The fluoropolymer resin to construct the insulative layer is PFA.

Toshima et al teaches a substrate processing appartus wherein PTFE and PFA are taught to be optimal choices for materials of construction in chemically and physically harsh environments like semiconductor manufacturing. The motivation to use these materials as the insulative layer of Hall is that they are corrosion resistant. Thus, it would have been obvious for one of ordinary skill in the art at the time of the claimed invention to construct the insulative layer of PTFE or PFA as taught by Toshima et al.

18. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Shih et al (US 6,466,881) teaches monitoring protective coating in a reactor chamber.

Kendig et al teaches (US 2005/0082174) teaches the evaluation of the corrosion inhibiting activity of a coating.

Laird et al (US 6,026, 691) teaches a device for electrochemically determinind metal fatigue states.

Yamuchi et al (US 5,519, 330) teaches measuring the degree of corrosion of metal materials.

Art Unit: 1792

Anderson et al (US 5,378,991) teaches detecting degradation of non-conductive inert wall layers of fluid containers.


Zdunek et al (US 2001/0001441) teaches an apparatus for measuring coating quality.

Konieczka (US 5,535,618) teaches seal integrity evaluation.

19. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Sylvia R. MacArthur whose telephone number is 571-272-1438. The examiner can normally be reached on M-Th during the hours of 8 a.m. and 4:30 p.m..

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Parviz Hassanzadeh can be reached on 571-272-1435. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.


Sylvia R MacArthur
Primary Examiner
Art Unit 1792

October 29, 2007